

[54] **WATER-INSENSITIVE BONDED  
PERLITE STRUCTURES**

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[57] **ABSTRACT**

Water-insensitive insulating structures of expanded perlite  
bonded by an in situ-produced water-insoluble crystalline  
reaction product of perlite and sodium or potassium silicate  
Structures are obtained by mixing the perlite with an aqueous  
solution of the silicate to make a damp granular powder, com-  
pacting the powder into a coherent article, and curing the arti-  
cle under controlled temperature and humidity conditions so  
as to maintain a water level in the article of at least about 10  
weight percent based on solids for a period of time sufficient  
to produce the crystalline binder. After curing, the structures  
are dried, if necessary, to a water content below about 20 per-  
cent, based on solids.

**5 Claims, No Drawings**

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